UST CLOSURE REPORT:
R. E. MARTIN STORE;
RT. 1, BOX 138, (NC 704),
LAWSONVILLE, STOKES COUNTY

Prepared for: Mr. R. E. Martin
Rt. 1, Box 138
Lawsonville, NC 27022

Prepared by: Certifoam Services/Salem Environmental
P. O. Box 5524
Winston-Salem, NC 27113-5524
910-661-9231 fax 661-9241

MAY 23, 1994

I. SUMMARY

Two underground storage tanks (USTs) used to store gasoline were closed by removal at this site. The 4,000 gallon tanks had been out of service since December of last year. No field or laboratory evidence of petroleum contamination was found in the excavation. A successful closure has been completed.

II. BACKGROUND

SITE & SETTING The site is located in northern Stokes County within one half mile of the Virginia state line. The property is on the north side of the highway about one half mile east of the intersection with NC 8, at Coleville. Mr. Martin and family run a grocery and auto parts store and an auto repair shop from the main building. They also have a prefabricated metal car wash building adjacent to the west. Mr. Martin's residence is beyond the car wash, on the corner of NC 704 and Hubbie Moore Road. There is a storage building east of the store. Behind the store/auto repair facility Mr. Martin has an auto salvage yard and cultivated fields. Across NC 704 to the south is another residence and farm fields. To the west across from Hubbie Moore Road is a former service station; it last sold gas in the late 1960s. The surroundings are primarily agricultural There is no public water supply and sanitary sewer in the area. The two residences both have private supply wells. Domestic waste water handled by septic systems. Location is shown on Figure 1, reproduced from the Nettleridge, Va-NC, USGS topographic map.

The two 4,000 gallon, gasoline USTs were located beneath asphalt to the west of the store in the front lot, as shown on the site map, Figure 2. Dimensions of the tank were 24 feet by 64 inches. The tanks were side by side and ran east-west. A concrete slab surrounding the pump island and with an overhead canopy is to the immediate east of the tanks.

The highway runs east-west on high ground. Surface at the store is flat in front but slopes down to the north strarting at the buildings. Runoff drains down slope to an east flowing creek at the base of the hill. Local relief locally is roughly 50 feet.

The site is located in the Piedmont Physiographic Province. Geologic site setting in the Smith River Allochthon Belt; bedrock beneath the site consists predominantly of banded gneiss, according to the 1985 NC State Geologic Map. In the piedmont, crystalline bedrock generally is overlain thick subsoil in which rock textures and structures are preserved. This soil, called saprolite, forms from the chemical weathering in place of the crystalline bedrock. Water table in similar settings is often between 20 and 30 feet deep. The saprolite has high permeability but low porosity. A large volume of slow moving ground water is typically stored in the saprolite.

JOB HISTORY The tanks and the property are owned by Mr. R. E. Martin. Previously, he removed a diesel fuel UST at the east side of the store. The gas tanks were the last remaining USTs on site. They were installed in 1967 according to Mr. Martin, and last stored gasoline in December of last year. Certifoam Services/Salem Environmental was contracted to provide professional environmental assessment and project management. Andrew Raring, P.G. provided supervised the field work for Certifoam. Blue Ridge Laboratories, Inc., an NC certified lab in Lenoir, was used for chemical analytical work.

III. UST SYSTEM CLOSURE

The UST was removed on May 16. The tanks were buried about three feet beneath the surface. Tank removal proceeded without incident. The tanks were in good condition, showing no pitting or holes. No soil discoloration or petroleum odor was noticed in soil beneath or surrounding the tanks. The tanks were taken to the Boles farm, where they will be steam cleaned and used to store water at the Bole's greenhouse operation. A note of transfer of tanks ownership was prepared; a copy is enclosed.

Three soil samples were taken from under each end and the middle of both tanks at a depth of nine feet. A sample was also collected from three feet below the central pump on the island, which held three clustered pumps. The product lines ran less than 20 feet from the excavation to the pumps so a sample was not required. There was no evidence of petroleum impact in the soil at either end of the product lines from the tanks to the pumps. Sampling procedures are described below.

SAMPLING AND QUALITY CONTROL Sampling procedures follow regulatory guidance and standard industry practice. Clean disposable vinyl gloves are worn to prevent cross-contamination. Sampling tools are decontaminated between each sample by a tap water/phosphate-free soap wash followed by a methanol rinse, then left to fully dry. The soil is packed tightly into lab-supplied glass bottles with aluminum or teflon seal, screw caps. The samples are immediately placed in an iced cooler and maintained under 40 degrees Fahrenheit to the laboratory. The samples are examined for texture, color, and other visible characteristics and classified accordingly. Chain of custody forms accompany the samples.

Excavation Soil Sampling Procedure All soil sampling points and depths are determined after consultation with the site geologist to ensure proper locations per applicable NC DEM guidelines. Soil samples are obtained from undisturbed soils by hand auger or trowel, depending on location. As OSHA regulation prohibits entry into an un-ramped pit over 4.5' deep, the samples underneath USTs are taken by hand trowel from soils scooped from the pit in the excavator bucket. Line and pump island samples are usually collected by hand auger.

Soil Sample Field Screening Depending on the volatility of the suspected contaminants, samples are collected in self sealing plastic bags. The sample is allowed to warm in the sealed bag so that gas concentration in the head space will equilibrate with the absorbed soil gas. After sufficient time, gas is withdrawn from the sample bag. The GASTECH model 1238 organic volatiles analyzer (OVA) meter extracts the sample by means of a vacuum pump through a sampling probe into the catalytic resistance detector. Concentration of organic volatiles is displayed either as parts per million or as percent of lower explosive limit (LEL). The OVA meter reading provides a semi-quantitative indication of contamination. Generally, a petroleum odor can be noticed in samples which yield an elevated OVA reading.

IV. RESULTS

Soil around the tank was an dense and cohesive, red, silty clay above five feet. Deeper, texture changed to a crumbly, clayey and silty, fine sand while color remained the same. No obvious saprolite texture or structures were seen. No ground water or bedrock was found at the hole bottom. The backfill around the tank was a native soil.

The samples from beneath the USTs and pumps were analyzed by EPA extraction method 5030 followed by the 8015 GC, California modified, method for total petroleum hydrocarbons (TPH) as gasoline. Analyses found no detectable concentration of TPH as gasoline above the ten parts per million (ppm) quantitation limit. Laboratory certificates of analysis and chain of custody forms are enclosed.

V. ASSESSMENT

As the UST is removed, the potential primary source of petroleum release to the environment has been eliminated. There was no field or laboratory evidence of petroleum release to the environment. A successful closure has been completed.

VI. LIMITATIONS & CERTIFICATION

The environmental assessment at UST system closure at the R. E. Martin Store, Lawsonville, has been performed for the exclusive use of Mr. R. E. Martin. Activities were limited to the authorized scope of work. Results are limited by the assumption that third party information, including laboratory analytical data, is accurate as reported to us. Applicability of results is limited to the site and to the time of our field investigation. Should further information become available to us, we reserve the right to alter our interpretations.

The undersigned certifies that this report fairly and completely represents conditions at the site as they were found. It is further certified that this work was conducted following regulatory guidance and standard industry practice.

Sincerely,

Andrew M Raring

Andrew M. Raring, Ph.D., P.G.
Consulting Geologist

Harvey C. Danner, Jr.
Owner/Project Manager

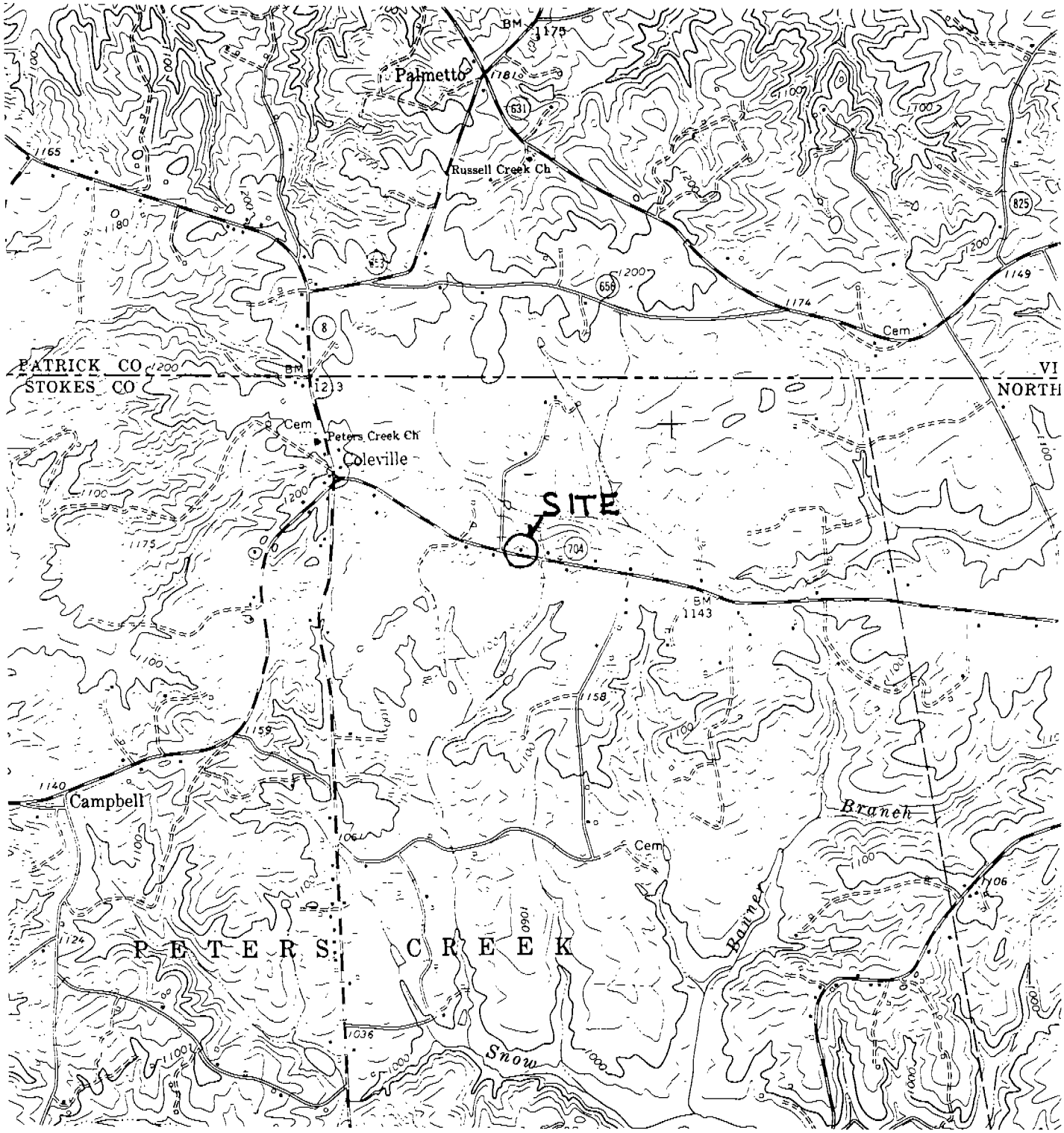


FIGURE 1–LOCATION MAP: R.E.MARTIN STORE

NC 704 Lawsonville, Stokes County

UST CLOSURE; 2–4,000 gallon gasoline USTs

USGS NETTLERIDGE, VA–NC, 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP

SCALE: 1"=2000'

CERTIFOAM SERVICES, INC.

MAY, 1994

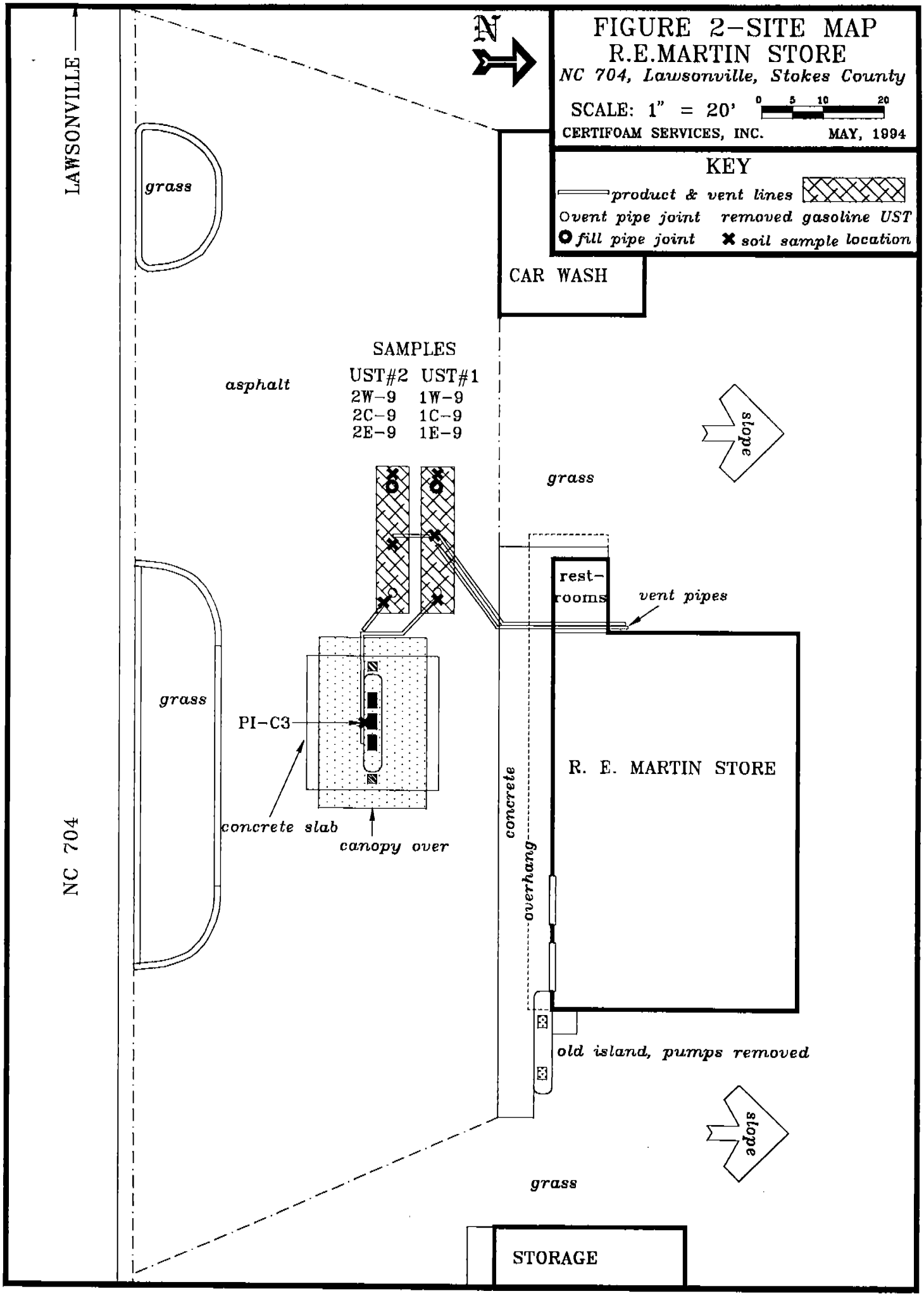


FIGURE 2–SITE MAP
R.E.MARTIN STORE
NC 704, Lawsonville, Stokes County
SCALE: 1" = 20'
0 5 10 20
CERTIFOAM SERVICES, INC.
MAY, 1994
KEY
product & vent lines
vent pipe joint
removed gasoline UST
fill pipe joint
soil sample location
N
LAWSONVILLE
NC 704
grass
CAR WASH
SAMPLES
UST#2 UST#1
2W–9 1W–9
2C–9 1C–9
2E–9 1E–9
asphalt
slope
grass
rest–
rooms
vent pipes
grass
PI–C3
concrete slab
canopy over
concrete
overhang
R. E. MARTIN STORE
old island, pumps removed
slope
grass
STORAGE

(GW/UST-2) **Site Investigation Report For Permanent Closure or Change-in-Service of U.S.T.**

FOR TANKS IN **NC**

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE MAP ON REVERSE SIDE OF OWNER'S COPY (PINK) FOR REGIONAL OFFICE ADDRESS].

State Use Only
I.D. Number _____
Date Received _____

INSTRUCTIONS

Complete and return within (30) days following completion of site investigation.

I. Ownership of Tank(s)

R. E. MARTIN
Owner Name (Corporation, Individual, Public Agency, or Other Entity)
RT 1 BOX 158
Street Address
STOKES
County
LAWSONVILLE NC 27022
City State Zip Code
910 - 871 - 2075
Area Code Telephone Number

II. Location of Tank(s)

R. E. MARTIN AMOCO
Facility Name or Company
Facility ID # (if available) NC 704
Street Address or State Road STOKES LAWSONVILLE 27022
County (Same) City Zip Code
Area Code Telephone Number

III. Contact Person

R. E. MARTIN — OWNER — 910-871-2075
Name — Job Title — Telephone No. (Area Code)

Closure Contractor (Name) CERTIFOAM SERVICE (Address) P. O. BOX 5524, W-S, NC 27103 Telephone No. (Area Code) 910 661 9231

Lab (Name) BLUE RIDGE LABS (Address) P.O.BOX 2940 LENOIR NC Telephone No. (Area Code) 704-728-0149

IV. U.S.T. Information

Tank No.	Size in Gallons	Tank Dimensions	Last Contents
1	4000	24' 6 68"	Gasoline
2	4000	"	"

V. Excavation Condition

Tank No.	Water in Excavation Yes	Water in Excavation No	Free Product Yes	Free Product No	Notable Odor or Visible Soil Contamination Yes	Notable Odor or Visible Soil Contamination No
1		✓		✓		✓
2		✓		✓		✓

VI. Additional Information Required

See reverse side of pink copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

VII. Check List

Check the activities completed.

- ☐ Contact local fire marshall
- ☑ Notify DEM Regional Office before abandonment
- ☑ Drain & flush piping into tank.
- ☑ Remove all product and residuals from tank
- ☑ Excavate down to tank.
- ☑ Clean and inspect tank.
- ☑ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.
- ☑ Cap or plug all lines except the vent and fill lines.
- ☑ Purge tank of all product & flammable vapors.
- ☐ Cut one or more large holes in the tanks.
- ☑ Backfill the area.

Date Tank(s) Permanently closed: _____
Date of Change-in-Service: _____

ABANDONMENT IN PLACE
- ☐ Fill tank until material overflows tank opening;
- ☐ Plug or cap all openings;
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used - specify: _____

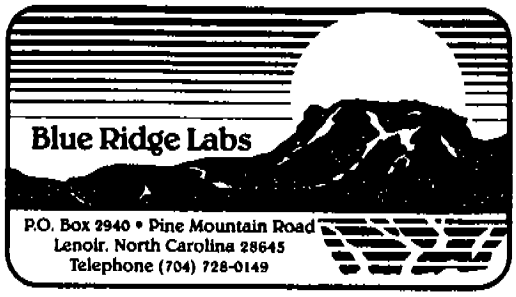
REMOVAL
- ☑ Create vent hole
- ☑ Label tank
- ☑ Dispose of tank in approved manner

Final tank destination: BOLES GREENHOUSE LAWSONVILLE, for water storage

VIII. Certification (Read and Sign)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
ANDREW M. RARING	Andrew M Raring	5/23/94



CLIENT: Certifoam Services, Inc.
P. O. Box 5524
Winston-Salem, NC 27113

Attention: Mr. H. Danner, Jr.

DATE RECEIVED: May 17, 1994

DATE REPORTED: May 19, 1994

SAMPLE NUMBER	SAMPLE DESCRIPTION
405-1028A	Soil; 1C-9 for 5030.
405-1028B	Soil; 1W-9 for 5030.
405-1028C	Soil; 1E-9 for 5030.
405-1028D	Soil; 2E-9 for 5030.
405-1028E	Soil; 2C-9 for 5030.
405-1028F	Soil; 2W-9 for 5030.
405-1028G	Soil; P1-CE for 5030.

PARAMETER	RESULTS	MQL	DATE ANALYZED
405-1028A - 5030	*	1.0 mg/kg	5/18/94
405-1028B - 5030	*	1.0 mg/kg	5/18/94
405-1028C - 5030	*	1.0 mg/kg	5/18/94
405-1028D - 3550	*	1.0 mg/kg	5/18/94
405-1028E - 5030	*	1.0 mg/kg	5/18/94
405-1028F - 5030	*	1.0 mg/kg	5/18/94

* Concentrations are below Minimum Quantification Limit except where noted.

NC Laboratory Certificate No. 275.

PARAMETER	RESULTS	MQL	DATE ANALYZED
405-1028G - 3550	*	1.0 mg/kg	5/18/94

REPORTED BY: _____

D. R. Wessinger - General Manager

* Concentrations are below Minimum Quantification Limit except where noted.

NC Laboratory Certificate No. 275.

Blue Ridge Labs
P.O. Box 2940 • Pine Mountain Road
Lenoir, North Carolina 28645
Telephone (704) 728-0149

CHAIN OF CUSTODY RECORD

CLIENT: Certiforum Services

PROJECT NAME R. E. Martin / Lawsonville

Sample I.D	Sample Type	Collection Date	Collection Time	Pres.	Int.	Requested Analysis
1C-9	Soil	5/16	2:50			5030 TPH
1W-9	"	5/16	2:45			
1E-9	Soil	5/16	3:00			
2E-9		5/16	5:00			
2C-9		5/16	4:45			
2W-9		5/16	4:30			
P1-CE		5/16	3:15			

RELINQUISHED BY	DATE	RECEIVED BY:
Andrew Ramsey	5/16 (6:00)	Danny Dees
Danny Dees	5/17/94 (12:45)	Kim Johnson